

IN THE CLAIMS:

Please cancel claims 1-16 and 18-28.

17. (original) A resistance heater for high voltage applications, comprising:
 - (a) an electrically insulating substrate;
 - (b) a flexible expanded graphite sheet having a thickness of about 0.01 mils to about 2 mils;
 - (c) a power source; and
 - (d) a connector for supplying power from the power source to the flexible expanded graphite sheet.
29. (new) The resistance heater of claim 17, wherein the high voltage is about 110 volts to about 480 volts alternating current.
30. (new) The resistance heater of claim 17, wherein the thickness of the flexible expanded graphite sheet is about 0.01 mils to about 1.5 mils.
31. (new) The resistance heater of claim 30, wherein the thickness of the flexible expanded graphite sheet is about 0.01 mils to about 1 mil.
32. (new) The resistance heater of claim 31, wherein the thickness of the flexible expanded graphite sheet is about 0.01 mils to about 0.4 mils.
33. (new) The resistance heater of claim 32, wherein the thickness of the flexible expanded graphite sheet is about 0.01 mils to about 0.1 mils.
34. (new) The resistance heater of claim 17, wherein the thickness of the flexible expanded graphite sheet is uniform.
35. (new) The resistance heater of claim 17, wherein the thickness of the flexible expanded graphite sheet is non-uniform.
36. (new) The resistance heater of claim 17, wherein the connector is a single set of two electrical terminals.

37. (new) The resistance heater of claim 17, wherein the flexible expanded graphite sheet is one of at least two sheet layers obtained by separating a flexible expanded graphite sheet having a first thickness into two or more thickness layers.
38. (new) The resistance heater of claim 37, wherein the flexible expanded graphite sheet is produced by a method comprising the steps of:
- (a) providing a flexible expanded graphite sheet having a first thickness and a surface adhered to a substrate;
 - (b) pulling apart the sheet and the substrate with a force sufficient to separate the adhered flexible expanded graphite sheet into a removed thickness layer and a remainder thickness layer adhered to the substrate; and
 - (c) optionally repeating steps (a) and (b) until the remainder thickness layer has a thickness of about 0.01 mils to about 2 mils.
39. (new) The resistance heater of claim 37, wherein the flexible expanded graphite sheet is produced by a method comprising the steps of:
- (a) providing a flexible expanded graphite sheet having a first thickness and a top surface, and a bottom surface adhered to a first substrate;
 - (b) adhering a second substrate to the top surface; and
 - (c) separating the first and second substrates with a force sufficient to separate the flexible expanded graphite sheet into a first remainder thickness layer adhered to the first substrate and a second remainder thickness layer adhered to the second substrate; and
 - (d) optionally repeating steps (a), (b) and (c) until at least one of the remainder thickness layers has a thickness of about 0.01 mils to about 2 mils.
40. (new) The resistance heater of claim 37, wherein the flexible expanded graphite sheet is produced by a method comprising the steps of:
- (a) providing a flexible expanded graphite sheet having a first thickness and a top surface, and a bottom surface adhered to a first substrate;
 - (b) non-uniformly adhering a second substrate to the top surface; and

- (c) separating the first and second substrates with a force sufficient to separate the flexible expanded graphite sheet into a first remainder thickness layer adhered to the first substrate and a second remainder thickness layer adhered to the second substrate; and
- (d) optionally repeating steps (a), (b) and (c) until at least a portion of one of the remainder layers has thickness of about 0.01 mils to about 2 mils.